FACULTY OF ENGINEERING

DESIGN AND PRODUCTION ENGINEERING DEPARTMENT

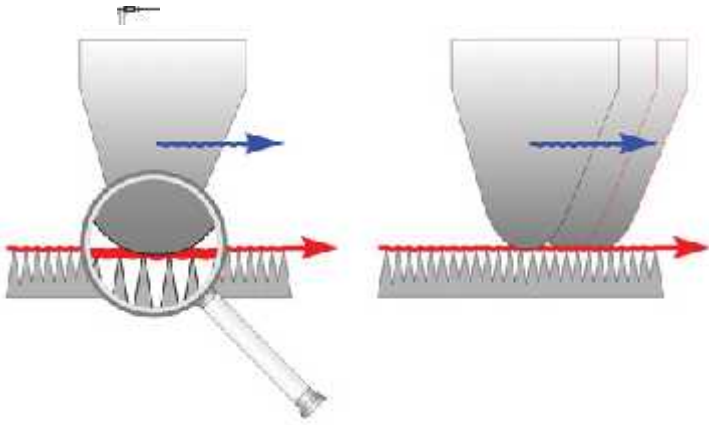
Credit Hour System

Metrology

Assignment No.

(3)

Surface Roughness



Student Name	Remark
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Prepared by

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20 ***21***

Q1: Calculate the arithmetical roughness average parameter of a surface for which the sampling length was 0.08 mm, the graph was drawn to a vertical magnification of 20,000 and a horizontal magnification of 200, and the areas above and below the datum line were :

Above	150	80	190	60	mm^2
below	85	25	180	130	mm^2

Q2: In determination of the bearing area curve of a surface of 0.25 mm sampling length , the following lengths were determined at equal depths:

0.25	0.35	0.6	0.9	1.2	1.25	1.45	1.65	2.2	mm

If the max peak to valley height (R_t) equals 240 μm, draw the bearing area curve then calculate the H value of the surface

Q3: In the measurement of surface roughness, heights of 20 successive peaks and through were measured from a datum and were: (Reading are in microns)

35	25	40	22	35	18	42	25	35	22
36	18	42	22	32	21	37	18	35	20

If the measurements were obtained over a one sampling length of a surface having 10 mm. assessment length , determine the R_t, CLA, HSC R_{3z} H and R.M.S. values of the rough surface.